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ABSTRACT

The relationship between pre-existing differences in student attitudes, values, personality, and length of school career is examined in this research report. A sample of 2,790 students who in 1967 were enrolled as freshmen in seven urban and suburban, public and parochial school systems in southern New York completed a questionnaire during their freshman year, sophomore year, senior year, and one year after graduation. Sub-samples were defined in terms of educational status after completion of high school including four-year college students, two-year college students, terminal high school students, and dropouts. Comparisons between the four sub-samples were made according to status background and intelligence, educational career variables, scholastic attitude variables, and self-reference variables. The data confirmed that individuals now in four-year colleges scored higher on the selected variables than those in two-year colleges, who in turn scored higher than terminal high school students, who in turn scored higher than dropouts. Such differences in scores existed not only as recently as the senior year of high school but as early as the freshman year. The findings suggest that pre-existing differences influence the length of formal schooling. (Author/DE)

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# IDENTIFICATION OF SELECTION VARIABLES ASSOCIATED WITH YEARS OF SCHOOLING ACHIEVED*

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# A B S T R A C T

At least two components comprise the relationship between human qualities and schooling: Noncognitive differences among those receiving varying amounts of schooling are explained as a function of either selection or socialization. Selection factors refer to pre-existing differences among those to be schooled; socialization factors refer to effects of schooling.

Educational sub-samples of a cohort of now college-age youth were compared on noncognitive variables measured as early as the high school freshman year and as late as the high school senior year. The sub-samples, defined in terms of educational status after completion of high school, were: four-year college students, two-year college students, terminal high school students, and dropouts. Comprising this cohort were the 2790 students who in 1967 were enrolled as freshman in seven urban and suburban, public and parochial, school systems in the southern tier of New York, and who completed a questionnaire during their freshman year, sophmore year, senior year, and one year after graduation. Comparisons among the sub-samples were made in relation to measured attitude, value, and personality variables organized under the headings of socioeconomic status and intelligence; educational career variables; scholastic attitude variables; and self reference variables.

The data confirm the early presence of measured differences between those subsequently differing in years of schooling attained. Findings suggest that differences in noncognitive characteristics are best understood as outcomes of pre-existing selecting differences which influence the length of formal schooling.

## INTRODUCTION

Central to the mythology of achievement-oriented, universalistic technocracies is the belief that attributes differences in human qualities accorded import in such societies to differences in formal schooling. A conspicuous and extreme illustration is the annual rite of the Bureau of Labor Statistics in publishing estimated lifetime earnings by specific levels of educational attainment. Recently, for example, The New York Times carried on its first page a B.L.S. bar graph showing that those (males) with one to three years of high shcool could expect lifetime earnings of $308,000 compared with the $584,000 which would be grossed by those with a college degree (1972). This human capital perspective, then, views schooling as a "value adding" process, the longer the processing time the higher the value of the product (see, for example: Becker, 1964; Blaug, 1968).

Somewhat less extreme is the perspective which regards the relationship between human qualities and schooling as comprised of two components. The first is a socialization component which, congruent with the human capital approach, allows for the possibility that schooling does have measurable experiential consequences on the individual and the more the schooling the more the socialization impact. The second is what we have chosen to refer to as a selection component. Such a component explicitly allows for the distinct possibility that a positive relationship exists between the initial-state quality of the human resource input to be schooled and the length in years of formal schooling to be accumulated. As a consequence, then, some of the differences measured at the time of school completion may be little more than extensions of differences which existed at the time of school entry. To wit: the fact that college graduates are "more intelligent" than high school graduates is probably

best understood when I.Q. is viewed both as a stable trait and as one which is a determinant of the length of an individual's formal schooling (Duncan, Featherman, and Duncan, 1968, Rehberg and Hotchkiss, 1972, Jencks, et. al., 1972).

Employing data from a longitudinal panel study of youth spanning the seven-year period between the first year of high school and the third year of college, for those who have pursued that form of higher education, this paper identifies and measures a number of such "selection" variables. Through our analyses, we seek to establish that individuals now in four-year colleges differed from those in two-year colleges, that each differed from those terminating their education with the high school diploma, and that all differed from those who did not complete high school. We shall also establish that such differences existed not only as recently as the senior year of high school but as early as the freshman year as well.

It is our hope that by adding to the knowledge-base of "selection" differences associated with years of completed schooling we may inform the growing number of investigators who seek to identify and measure the degree to which, if any, schooling as such "adds value" to the non-cognitive repertoire of individuals in an industrialized society.

## SOME PERTINENT LITERATURE

Inasmuch as the data reported in our paper lie primarily within the "non-cognitive" domain of schooling variables, we shall direct our brief overview of the literature to differences in "affective" measures of individuals often associated with corresponding differences in years of formal schooling.

Although it is true, as Jencks et. al. (1972) and others have noted, that measures of non-cognitive variables are less well developed than are measures of

such cognitive variables as intelligence, nevertheless, investigators have found inter-individual differences in affective variables which correspond to inter-individual differences in formal schooling.

With respect to higher education, for example, the recent eclectic synthesis of the literature by Feldman and Newcomb (1970) suggests that when compared to their freshman counterparts, college seniors are less dogmatic, less ethnocentric, more self-reliant, and more dominant. Similarly, Sanford (1956) has reported that college seniors are higher than freshman in social maturity and impulse expression. And, Inkeles (1966) and Kahl (1968) have presented evidence suggesting that schooling is positively related to innovation and sense of personal mastery. Tolerance and liberalism have also been positively linked to years of formal schooling, as in the works of Dynes (1967) and Webster, Freedman, and Heist (1964).

The non-cognitive socialization effects attributed to schooling by those of the human capital perspective are perhaps most aptly summarized by an excerpt from Gintis' critique of Illich. Gintis writes.

> The social relations of education produce and reinforce those values, attitudes, and affective capacities which allow individuals to move smoothly into an alienated and class-stratified society. . . . That the "hidden curriculum" in mass education reproduces the social relations of production is reinforced in several distinct bodies of current educational research. First, economists have shown that education, in its role of providing a properly trained labor force, takes its place alongside capital accumulation and technological change as a major source of economic growth. Level of educational attainment is the major non-ascriptive variable in furthering the economic position of individuals. .

Second, research shows that the type of personal development produced through schooling and relevant to the individual's productivity as a worker in a capitalist enterprise is primarily <u>non-cognitive</u>. That is, profit-maximizing firms find it remunerative to hire more highly educated workers at higher pay, essentially <u>irrespective</u> of differences among individuals in cognitive abilities or attainments (emphasis in the original, 1972:86).

Two points of controversy, however, characterize the interpretation of how such affective differences are related to income and occupation on the one hand, and to schooling on the other.

The first point of contention arises over whether such differences are related to occupation and income intrinsically or extrinsically, as it were. Gintis appears to argue for an intrinsic relationship, that is, that such non-cognitive differences have a direct bearing on productivity, income, and the like, as the excerpt just above would indicate. Berg (1970) and to a lesser extent Collins (1971) are not as convinced. It is Berg's position that the existence of such an intrinsic relationship between, say, productivity and affective qualities is yet to be proven. He writes:

> In most industries the employers sought to justify the decision to use education as a "screening device" by claiming that educational achievement is evidence of an ability to get along with others and to make the most of opportunities. . . . However, when efforts were made to pinpoint the ways in which "better-educated" workers prove to be superior to those with less formal education, it was discovered that business firms do not collect data that would make such comparisons possible (1970:15).

The second point of dissention, and the one most fundamental to this paper, is the degree to which differences in non-cognitive variables can be understood as socialization outcomes of the process of schooling net of pre-existing selection differences which influence the length of formal schooling as such. Perhaps the most charitable position on this issue is that of Fullan and Loubser (1972) who in their provocative essay on "Education and Adaptive Capacity," i.e., the ability of an organism or a social system to cope with a wide range of environmental conditions, physical or social, conclude that:

> We . . . know very little about the causal relationship between education and adaptive functioning. In the first place, most of the researchers who have investigated the effects of education have been content to rely on standardized achievement tests. Very few new, more appropriate tests . . . are being developed. Since there has been little attempt to measure generalized capacities, we do not even know the zero-order relationships between education and adaptive functioning (1972:279).

Considerably harsher is Frymier's rhetorical question to the effect that: If we know that basic problems of academic achievement are fairly well fixed by grade three, that academic motivations derive more from personality structure and value commitment learned at home rather than at school, why attempt to motivate students with grades, honor rolls, or fear of punishments? (1971)

Less categorical than Frymier but nonetheless skeptical regarding the non-cognitive socialization impact of schooling are the positions of Bachman, et. al. (1971) and Berieter (1972).

Bachman (1971), in his national longitudinal study of "drop-outs" was led to the conclusion that most of the negative qualities imputed to drop-outs and thought by laymen and "excerpts" alike to be the effects of "dropping-out," i.e., low self-esteem, low sense of personal efficacy, etc., were already characteristic of the eventual drop-out as early as the tenth grade of high school.

Finally, in his controversial paper, "Schools Without Education," Berieter argues that:

> For the most part, people who receive different schooling are already different in other ways that make them non-comparable and that make it impossible to isolate the effect of schooling. College-educated people differ markedly from non-college educated people in social attitudes, but the differences are already there before college, even when the comparison is made between people of similar intelligence, school achievement, or socio-economic status (1972:393).

Although we must register a contrary view to Berieter's assertion that pre-existing or selection differences "make it impossible to isolate the effects of schooling," we do, nonetheless, concur with his view that "people who receive different schooling are already different in other ways. . ."

It is to an empirical analysis of such differences that we now turn.

## POPULATION, VARIABLES, AND PROCEDURE

As we have noted above, our focus in this paper is on "input" or selection measures and our analyses take the form of comparing educational sub-samples of a cohort of now college-age youth on variables measured as late as the senior and as early as the freshman year of high school.

### The Population and Sub-samples

The four sub-samples of the cohort, defined as per their educational status some six to nine months subsequent to their nominal completion of high school in June of 1970 are:

1. Four-year college students
2. Two-year or community college students
3. Terminal high school students
4. Drop-outs

In this early version of the paper, time has necessitated a restriction of the analyses to the male segment of the cohort. A later version will include analyses for both males and females.

Comprising this cohort are the 2730 students who in 1967 were enrolled as freshman in seven urban and suburban, public and parochial school systems in the sothern tier of New York and who, in the spring of that year, completed a one-hour survey instrument (some 95 percent of the entire freshman class). Four additional measurements have been made on the cohort: a sophmore-year survey, a senior-year survey; the first post-high school survey in December of 1970; and the second post-high school survey now in progress. The four educational sub-samples of the cohort are defined via their educational status as reported in the first post-high school survey, to which 88 percent of the entire freshman-year panel responded.

## Variables

Comparisons between the four educational sub-samples are made in terms of variables which we have grouped into five conceptual domains:

1. Status background and intelligence

   a. Paternal education and occupation, maternal edcuation, operationalized with the respective single-variable scales from the Hollingshead Two Factor Index of Social Position (1957); and a four-level measure of family status vis a vis the Two Factor Index with classes I and II collapsed into "upper-middle."

   b. Measured intelligence of the respondent as per ninth-grade scores on the Otis and California Mental Maturity tests.

2. Educational career variables

   a. Educational aspiration and expectation. These are measures of, respectively, the idealistic and the realistic levels of educational career goals. Data are from senior and freshman year surveys.

   b. Continued education taken for granted. A measure of the degree to which the respondent believed that his continued education beyond high school was "taken for granted" at home. Data are from senior and freshman year surveys.

   c. Educational mobility attitude. A Likert-summated scale of five items measuring the degree to which the respondent believes that formal education yields him personally beneficial outcomes. Data are from senior and freshman surveys.

   d. Student activity participation. A scale measuring the number of student activities in which the respondent participated. Data are from the senior and sophomore surveys.

3. Scholastic attitude variables

   a. Importance to the respondent of being a good student.

      1) Measured in an "absolute" sense, i.e., "How important is it to you personally to be a good student?" Data are for senior and freshman years.

      2) Measured in a "comparative" sense, i.e., "How good a student do you want to be in school?" with response alternatives ranging from "one of the best in the senior/sophomore class," to "I don't care." Data are for the senior and sophomore years.

   b. Scholastic reputation with teachers. A measure of the quality of reputation for "school work" the respondent believed himself to have with his teachers. Data are for the senior and freshman years.

4. Self-reference variables

   a. Self-image. A Likert-summation of the ten items developed by Rosenberg (1965) for his Society and the Adolescent Self-image. Data are for the senior and freshman years.

   b. Satisfaction with present self. A single item measure indicating whether the respondent is satisfied with his self and would change nothing or whether he is less than satisfied and would change some or all of himself; from Coleman's (1961) The Adolescent Society. Data are for the senior and freshman years.

   c. Comparative subjective intelligence. A single item measure of how bright or intelligent the respondent believes himself to be in relation to his classmates. Data are for the senior and sophomore years.

   d. Time-orientation. A three-item Likert summated scale measuring the degree of future--present orientation. Data are for senior and freshman years.

   e. Mastery-orientation. A six-time Likert summated scale measuring the degree of respondent belief in personal potency. Data are for senior and sophomore years.

## Procedure

In this, the first and most preliminary version of our paper, the methodology is descriptive and elementary. With but one exception the basic statistic is the arithmetic mean for each subgroup which is then expressed in table and figure mode in terms of the proportion of a population standard deviation by which it deviates from the parameter mean. Although tests of significance are not employed, it should be noted that in the great majority of comparisons, the sub-group means are reliably different from each other. Later versions of this paper will employ procedures with much greater rigor and sophistication.

## DATA

### Background Variables

At least with respect to the end-points of the educational continuum, Table 1 and Figure 1 confirm what is already well known. Specifically, in each of the four comparisons, students enrolled in four-year colleges exhibit the largest

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Table 1 and Figure 1 about here

a standard unit above for the measures of parental status and six-tenths of a unit above for the measure of intelligence. By way of contrast, the drop-outs, in three of the four comparisons, display the largest negative deviations, ranging from about four-tenths of a standard unit below for paternal education to seven-tenths below for intelligence. The one exception is paternal occupation where the terminal high school students have lower occupational origins than do the drop-outs.

Moving from the end-points to within the continuum, we wish to make two observations. First--we would note the degree of similarity between terminal high school students and drop-outs on the family status indicators. In terms of a percentage rather than a standard deviation distribution, we find 17 percent of the terminals and 18 percent of the drop-outs from "lower-working" backgrounds; 46 percent of each from "upper-working" backgrounds; 24 and 25 percent, respectively, from "lower-middle" and 14 and 11 percent, respectively, from "upper-middle" backgrounds.

Secondly--we would note the apparent dissimilarity between four and two-year college students on both the status and the intelligence measures. Contrasted with the 31 percent of the four-year students from working-class backgrounds is the 50 percent of the two-year students. And, while equal percentages of each sub-sample are of "lower-middle" origins, only 19 percent of the two-year in comparison with 38 percent of the four-year students are of "upper-middle" status backgrounds. When described by measured intelligence, a similar profile emerges: a larger percentage of two than of four year students are characterized by I.Q.'s in the lower half of the distribution (20 percent of the two versus 5 percent of the four-year students have I.Q.'s in the lowest quarter) with equal percentages of 27 in the third quarter, but with a markedly higher percentage of the four-year

students having scores in the highest quarter--53 percent for the four-year, 22 percent for the two-year students.

When described by status and intelligence, then, the data suggest three rather than four educational sub-samples: four-year college students, two-year college students, and terminals/drop-outs.

A note about background variables as statistical controls

Given these differences between the educational sub-samples, we executed all of our following analyses with simultaneous controls for both status and intelligence. In doing so, we anticipated severe attenuations if not virtual eliminations of many between sub-sample differences. With but one exception, however, such severe attenuations have not occurred. That single exception is for the category of "high" status, "high" intelligence respondents. A representative example will illustrate:

Means and Ranges between Means: Level of Educational Expectation, Freshman Year by Status and Intelligence

| Status | Intelligence | Mean Four Yr. | Mean Drop-out | Range |
|---|---|---|---|---|
| High | High | 1.80 | 2.54 | .74 |
| | Low | 1.86 | 3.07 | 1.21 |
| Low | High | 1.91 | 2.95 | 1.04 |
| | Low | 2.21 | 3.52 | 1.31 |
| All | All | 1.85 | 3.21 | 1.36 |

In light, then, of the persistence of differences between the four educational sub-samples even with simultaneous controls for the two background variables, with the one exception noted above (to which we shall return later), we have elected to present the data without controls for status and intelligence. The cost of eliminating displays of conditional means, we believe, is more than offset by the added clarity afforded by the concentration of analyses on zero-order differences.

Educational Career Variables

As anticipated, Table 2 and Figure 2 portray fairly pronounced differences in the aspirations, expectations, and mobility attitudes of the four sub-samples.

Table 2 and Figure 2 about here

What we find of most interest, however, and it is a pattern fairly characteristic of most of the variables, is the presence of rather marked differences between the four sub-samples as far back as the freshman year of high school. Thus, as freshman, those students whose post-high school educational career has taken them onto four years of college, had an expectation level almost seven-tenths of a standard deviation above the class mean; those who completed their formal training with the high school diploma had an expectation level almost six-tenths below the class mean; while those who did not complete high school had an expectation level almost eight-tenths of a standard unit below the freshman mean.

Similarly, when the variable is the number of student activities in which the respondent participated, we observe a three-tenths of a standard deviation difference above the class mean for the four-year college sub-sample in comparison with a like deviation below the class mean for the terminal high school sub-sample.

Most informative, however, are the percentage responses to the query posed in the senior and freshman surveys: "Would you say that in your home it has been just about taken for granted that you will continue your education after you get out of high school?" As early as the freshman year, almost three times the proportion of those who were to go on to four years of college responded "yes," (86 percent) as did those who were to drop-out (33 percent).

We find then, on the four educational career variables, that discernible differences characterize the four sub-samples not only as recently as their

senior year of high school but as early as their freshman and sophomore years, suggesting that the educational career die was cast, at least in part, even as those students began their progress through secondary school.

## Scholastic Attitude Variables

Ultimate educational attainment, of course, is a function not only of status, intelligence, attitude toward education, and level of expectation, but of motivational variables as well.

Although our two measures of scholastic motivation are far from adequate, each indicates, as per Table 3 and Figure 3, that as late as the senior year and as early as the freshman year the four educational sub-samples differed in the

Table 3 and Figure 3 about here

degree to which they accorded import to scholastic achievement. When asked "how good a student they wanted to be" in comparison with their class-mates, the mean on a five-point scale in the senior year for the four-year college students was 1.68 or .45 standard deviation units above the class parameter while the two-year students had a mean of 2.14 and terminal students, with a mean of 2.63, fell more than a half-a-standard unit below the senior class parameter. When asked the same question two years earlier, as sophomores, the mean for the four-year college students was 1.48, placing them a half a standard deviation unit above the sophomore mean; the mean for the terminal high school students was 2.37, some .47 of a unit below the class parameter; and the drop-outs, with a mean of 2.62, were almost three-fourths of a standard unit below their class peers.

That these four sub-samples were cognizant of their differing scholastic reputations with their teachers is indicated by their relative locations as per their self-reported reputations for school work. As seniors, the four-year college students were almost a half a standard unit above the class average while

the terminal students fell more than a third of a unit below. In the freshman year, such differences were just as pronounced but with the additional datum that those who were to drop out of high school were almost six-tenths of a standard deviation below the mean for the freshman class as a whole.

Thus, we find with the measures of scholastic attitudes as we did with the measures of academic career variables, discernible differences between the four educational sub-samples both during the senior year and, more saliently, during the freshman and sophomore years.

## Self-reference Variables

Earlier in the review of the literature, we noted Bachman's finding that even as early as the tenth grade drop-outs differed from those who completed high school on such measures as self-esteem and sense of personal efficacy. And, we would infer from Gintis, from Jencks, and from Berg that it is in reference to such "personality variables" that employers invoke as a surrogate indicator, educational certification.

Reference to Table 4 and Figure 4 indicates noticeable differences on four of these measures between the educational sub-samples. Four-year college students, as high school seniors and as high school freshman (1) had more positive images of themselves and were more satisfied with their then present selves; (2) regarded themselves as "brighter;" (3) were oriented more to the future; and (4) possessed a higher sense of personal potency, than did the two-year college students, each of whom were higher in the respective category means than were those who terminated their schooling with the diploma, all of whom were higher on these measures than were those who did not complete the secondary school life cycle.

Of interest on this set of measures is the apparent tendency for sub-sample differences to be greater in the freshman than in the senior year--a convergence also reported by Bachman (1971) on several of his measures.

This fourth and final data set, then, inscribes a pattern isomorphic with those of the three preceding data sets. On almost every measure, when compared with the population class mean, those students who pursued a four-year college education had the highest deviations above the class parameter, those who went on to a two-year college averaged very close to the class parameter; those who concluded their formal education with the high school diploma were below the class mean; while those who did not complete high school had the highest deviations below the class mean. And, to reiterate a point we have made before, such between sub-sample differences were manifest not only as late as the last year of high school, but as early as the first year.

## DISSCUSSION

As a preface to a brief discussion of our findings, several cautions are in order. First, we are sensitive to the possibility that a definition of the four educational sub-samples based on educational status data more reflective of completed schooling some four to six years after graduation from high school may yield data patterns different from those just reported. Given the similarity between our findings and those reported by other investigators, e.g., Bachman (1971), however, we doubt whether those differences would be of any great magnitude.

Second, the nature of the variables we have selected for analysis is both limited in scope and may not, in point of fact, represent those which "make a difference" in prestige of occupation or annual earnings. With respect to the question of scope, however, we have analyzed sub-sample differences on a

substantially larger number of variables than space has permitted us to report here. Sub-sample differences of the magnitude characteristic of the variables in this paper characterize the majority of those variables, including measures of the authority structure of the family, parental achievement socialization practices, etc. With respect to whether our variables are those which account for differences in occupational prestige and earnings, we would aver that on their "face value" they lie within that general domain, although further investigation is warranted to assess the validity of this judgement.

Third, we are painfully aware that our analysis has been an exercise in "post-diction," looking back, as it were, at the characteristics of individuals after the fact of their educational attainment. Caution must accompany such retrospective analyses inasmuch as the best and most sophisticated pre-diction studies (using many of the same variables examined above) leave some forty to fifty percent of the variance in ultimate educational attainment unaccounted for.

Even within the context of these caveats, we are persuaded that our data do demonstrate the rather early presence of discernible differences between individuals who are later to achieve quite different amounts of formal schooling.

That these differences are present as early as the first year of high school and that such differences do not diminish markedly either as a result of simultaneous controls for socio-economic status and intelligence or as a result of the passage of four years of secondary school leads us to conclude, along with Jencks, et. al., that "the long term effects of schooling seem much less significant to us than they did when we began our research (1972:13)."

Of course, empirical research can never "prove" the null, i.e., that schooling has no effect on X, Y, or Z. We would observe, however, that educators and economic and social policy makers at all levels of government might well be

advised to remain cognizant of and responsive to a growing literature which, while much of it has attempted to reject that null hypothesis, by and large seems to have failed in that effort. Perhaps the time is not too distant when we shall all have to affirm that, in Hasenfeld's (1972) terms, schools are not so much "people-changing" organizations as they are "people-processing" organizations; i.e., that schools "shape a person's life by controlling his access to a wide range of social settings through the public status they confer; and they may define and confirm the individual's social position when his current status is questioned (1972:256)."

Table 1

Standard Scores for Status Background and Intelligence Variables, by Educational Status Category, First or Freshman Year Measurement

| Post High School Status | Status Background and Intelligence Variables: Education of the Father | Education of the Mother | Occupation of the Father | Intelligence of the Respondent |
|---|---|---|---|---|
| Four year college | +.43 | +.38 | +.48 | +.64 |
| Two year college | -.03 | -.08 | -.03 | -.09 |
| Terminal high school | -.32 | -.23 | -.38 | -.54 |
| Drop outs | -.38 | -.34 | -.28 | -.73 |

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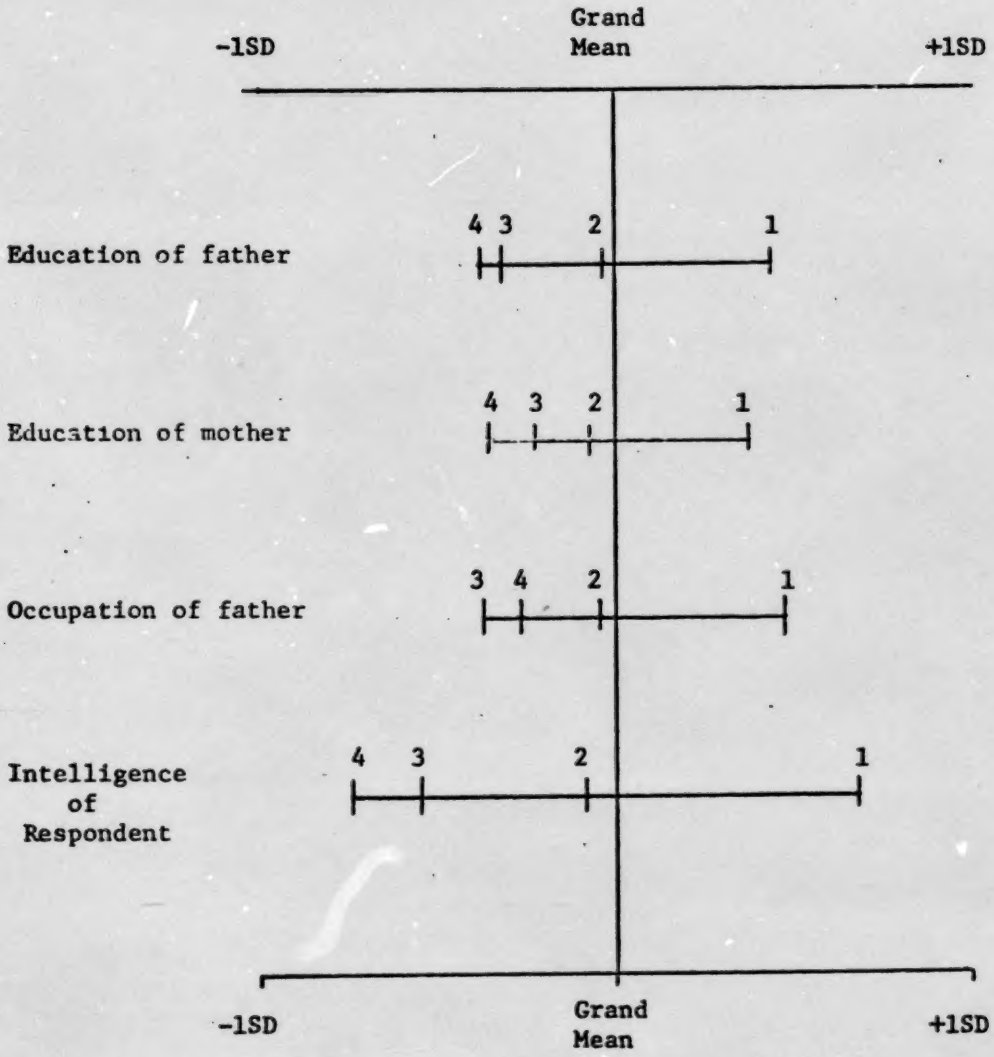
Figure 1

Status Background and Intelligence Data for Four Levels of Educational Status




Legend:

1 = four-year college students
2 = two-year college students
3 = terminal high school students
4 = drop-outs

Table 2

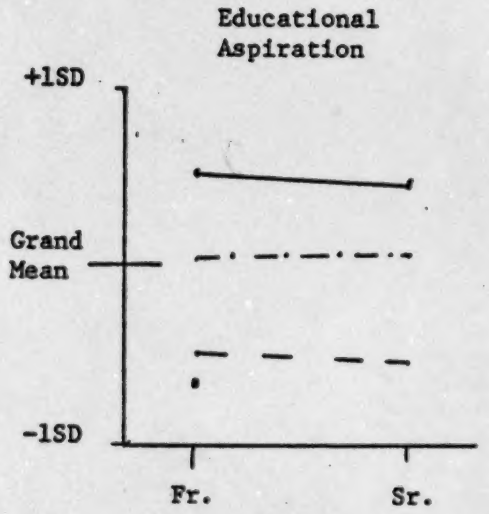
Standard Scores for Four Educational Career Variables, by Educational Status Category, First and Second Measurements

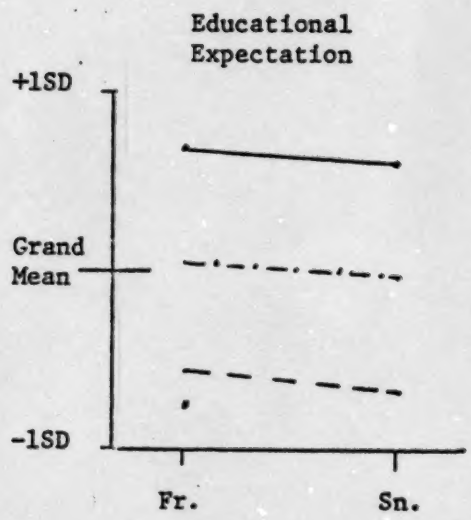
| Post High School Status | Educational Career Variable | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Educational Aspiration | | Educational Expectation | | Educational Mobil. Att. | | Stud. Activity Participation | |
| | FrYr | SnYr | FrYr | SnYr | FrYr | SnYr | FrYr | SnYr |
| Four year college | +.53 | +.44 | +.68 | +.60 | +.35 | +.16 | +.27 | +.44 |
| Two year college | +.03 | +.06 | +.01 | -.06 | -.05 | +.05 | -.02 | -.02 |
| Terminal high school | -.49 | -.52 | -.59 | -.67 | -.14 | -.25 | -.27 | -.52 |
| Drop outs | -.62 | n.a. | -.77 | n.a. | -.25 | | -.20 | n.a. |

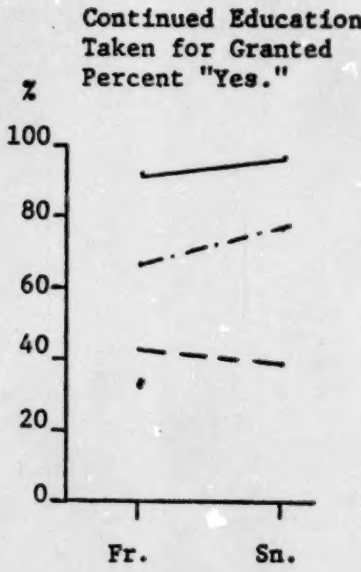
00023

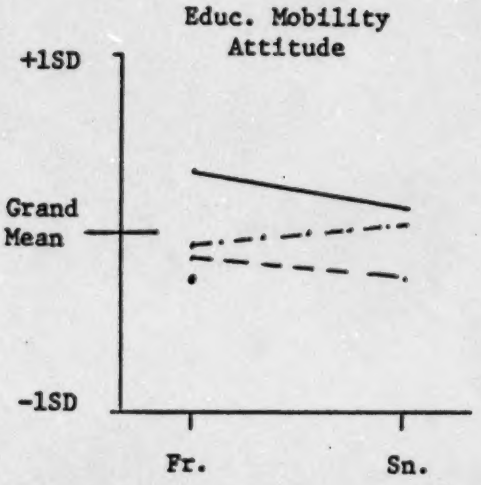
Figure 2

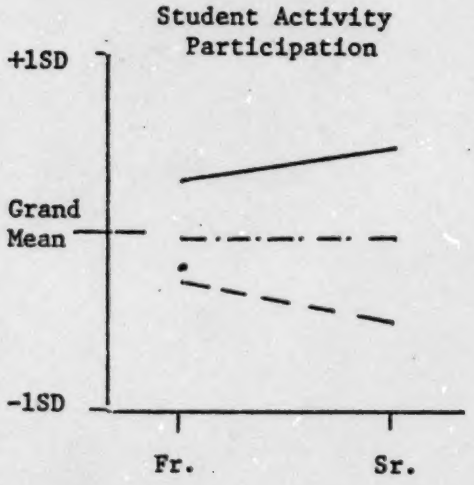
CROSS-TIME EDUCATIONAL CAREER VARIABLE DATA FOR FOUR LEVELS OF EDUCATIONAL STATUS




Legend:

Four yr. college: ___

Two yr. college: -.-.-

Terminal H.S.: _ _ _

Drop-outs: .

00024

Table 3

Standard Scores for Three Scholastic Attitude Variables, by Educational Status Category, First and Second Measurements

| Post High School Status | Scholastic Attitude Variable | | | | | |
|---|---|---|---|---|---|---|
| | Importance of being a good student (Absolute measurement) | | Importance of being a good student (Comparative measurement) | | Scholastic reputation with teachers (self-reported) | |
| | FrYr | SnYr | SoYr | SnYr | FrYr | SnYr |
| Four year college | +.30 | +.25 | +.51 | +.45 | +.46 | +.45 |
| Two year college | +.11 | .00 | -.01 | -.02 | -.02 | -.15 |
| Terminal high school | -.34 | -.30 | -.47 | -.53 | -.39 | -.35 |
| Drop outs | -.57 | n.a. | -.74 | n.a. | -.58 | n.a. |

Figure 3

CROSS-TIME SCHOLASTIC ATTITUDE DATA FOR FOUR LEVELS OF EDUCATIONAL STATUS

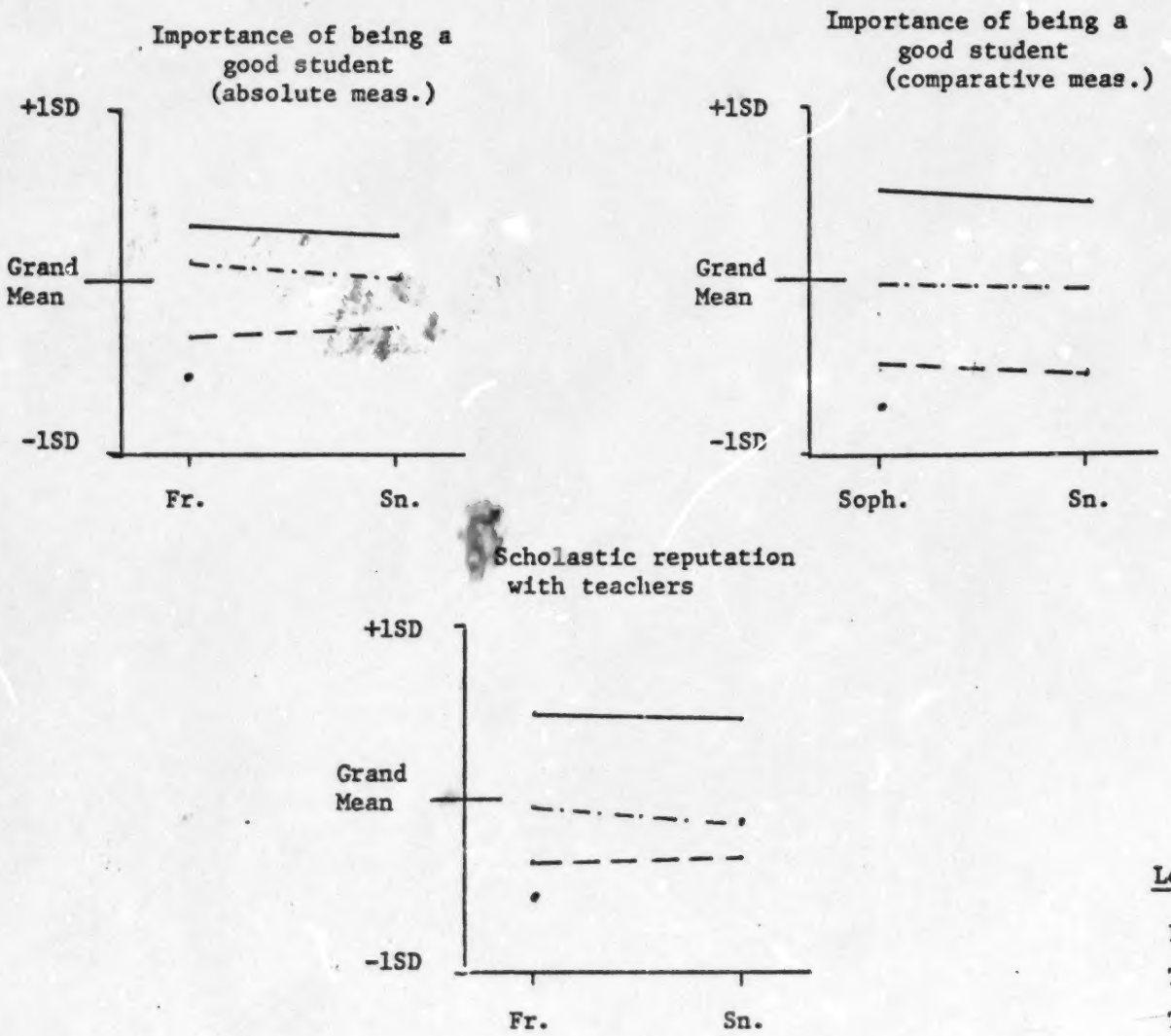



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Table 4

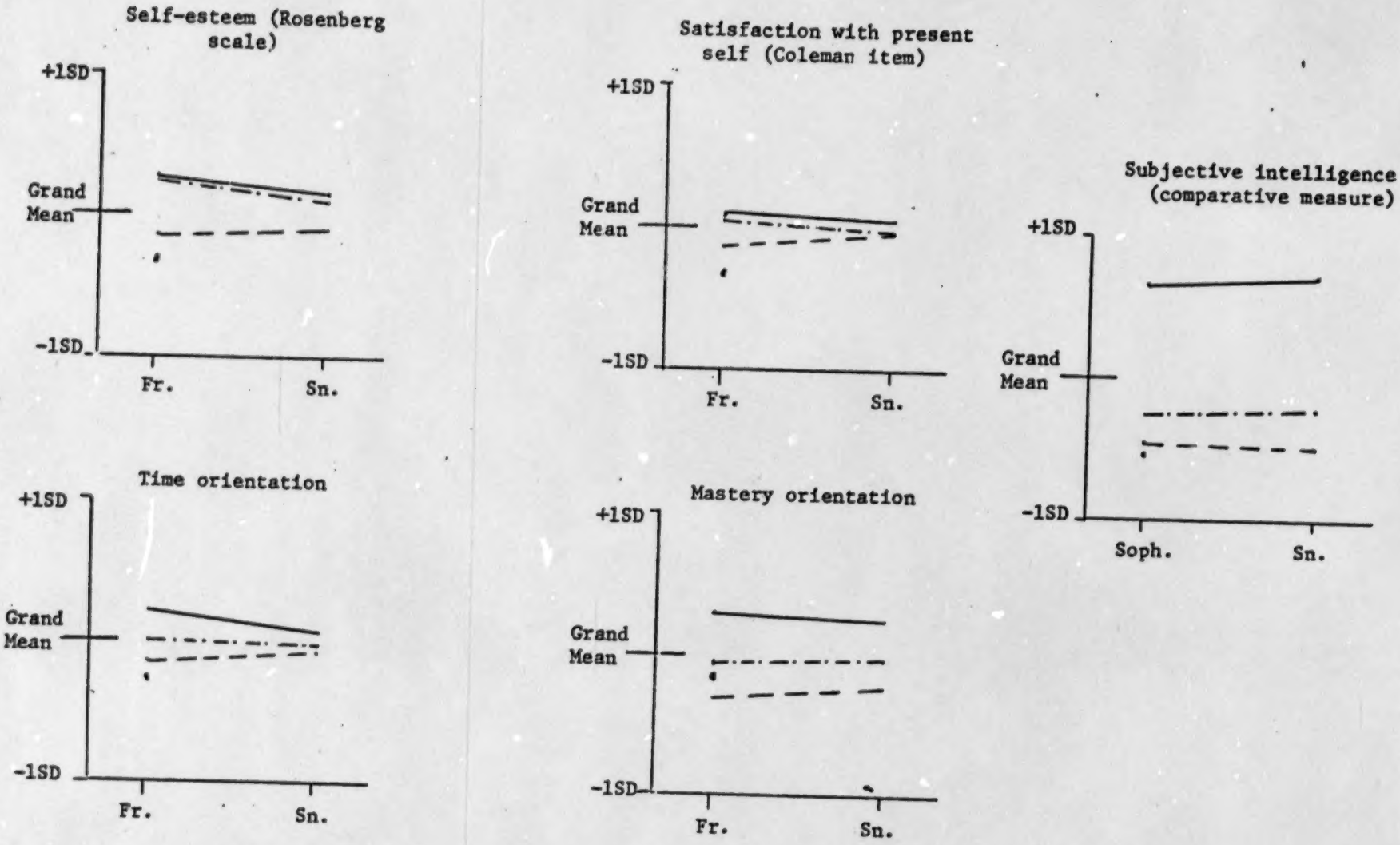
Standard Scores for Five Self-reference Variables, by Educational Status Category
First and Second Measurements

| Post High School Status | Self-reference Variables | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Self-esteem | | Satisfaction with self | | Subjective I.Q. | | Time Orient. | | Mast. Orient. | |
| | FrYr | SnYr | FrYr | SnYr | SoYr | SnYr | FrYr | SnYr | FrYr | SnYr |
| Four year college | +.25 | +.15 | +.13 | +.07 | +.65 | +.68 | +.20 | +.08 | +.29 | +.23 |
| Two year college | +.23 | +.11 | +.07 | -.04 | -.25 | -.23 | .00 | -.03 | -.07 | -.05 |
| Terminal high school | -.16 | -.13 | -.11 | -.04 | -.44 | -.48 | -.17 | -.06 | -.30 | -.22 |
| Drop outs | -.32 | n.a. | -.32 | n.a. | -.48 | n.a. | -.24 | n.a. | -.18 | n.a. |

00027

Figure 4

CROSS-TIME SELF-REFERENCE DATA FOR FOUR LEVELS OF EDUCATIONAL STATUS

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